



Case Report

Accidental unilateral and incomplete strangulation injury in a patient while traveling on a bicycle

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ABSTRACT

Chunni (a piece of cloth worn around the neck by many Indian women) is a well recognized accidental ligature around the neck. We report a rare case of accidental strangulation with chunni where the patient was pillion rider on bicycle; in spite of very common of use of bicycle to best our knowledge this kind of injury has not been reported previously.

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1. Introduction

Various rare kind of accidental ligature strangulations injuries cases among adults' have been described.^{1–11} Chunni (a piece of cloth worn around the neck by many Indian women) is a well recognized accidental ligature around the neck.^{1,2,4,5} We report a rare case of accidental strangulation with chunni where the patient was pillion rider on bicycle; in spite of very common of use of bicycle to best our knowledge this kind of injury has not been reported previously.

2. Case report

Twenty year female student was traveling with her brother as a pillion rider on the bicycle. The chunni (that was around her neck) got stuck in the spokes of the rear wheel of the bicycle and following that along with the bicycle fallen down. There was history of transient loss of consciousness and 3–4 episodes of vomiting. Her general and systemic examination was unremarkable. She was conscious, alert and oriented. There were no neurological deficits.

She had swelling and tenderness over occipital region. There was accidental strangulation ligature mark over the right side of the neck (Fig. 1). She is doing well with conservative management.

3. Discussion

It is quite well known that the unprotected spokes of the cycle wheel can trap the long scarf.^{2,4,7,9} Most of such cases of accidental strangulation had severe injury from the onset leading to asphyxia and unconsciousness resulting in almost 100% mortality.^{3–7,9,10} In a rare survivor following such accidental ligature strangulation, the victim escaped with minimal injuries as the compression was partial and unilateral.⁸ It is apparent from the literature that almost all these cases had quite high velocity and rapid strangulation (rotatory part of a machine, two-wheeler motorcycle),^{1,2,5,6,11} the weight was acting as the force to strangle³ or the wheel of the rickshaw was rotating and the victim was sitting and static in position.^{1,4,9,10} In present case the survival of the patient can be attributed to the facts that bicycle is slow moving vehicle and also along with bicycle she fallen down, that prevented the transmission of the strangulation force to the neck. To prevent such rare unfortunate mishaps apart from the care of the cloth,² plastic guards fitted to the wheels have been recommended.¹¹

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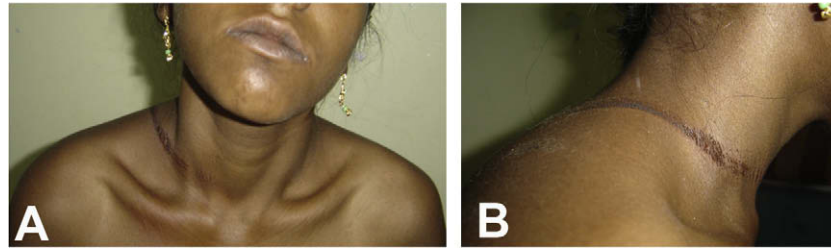


Fig. 1. Clinical photograph showing the ligature mark on the right side of the neck, also note the downward direction of the mark suggesting accidental strangulation.

Conflict of Interest

None declared.

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Ethical Approval

None declared.

References

- Verma SK, Aggarwal NK, Kohli A. Accidental ligature strangulation deaths in East Delhi (India). *Med Sci Law* 2005;**45**(1):47–51.
- Gupta BD, Jani CB, Datta RG. Case reports. 2. Accidental strangulation: a case report. *Med Sci Law* 2004;**44**(4):359–62.
- Hitosugi M, Yokoyama T, Kido M, Kawato H, Matsushima K, Nagai T, et al. Accidental strangulation of a mentally retarded patient by a clothing collar: a case report. *Med Sci Law* 2006;**46**(3):260–2.
- Aggarwal NK, Agarwal BB. Accidental strangulation in a cycle rickshaw. *Med Sci Law* 1998;**38**:263–5.
- Shetty M, Shetty BS. Accidental ligature strangulation due to electric grinder. *J Clin Forensic Med* 2006;**13**(3):148–50.
- Ambade VN, Godbole HV, Dixit PG, Kukde HG. Accidental ligature strangulation due to crop thrasher. *J Forensic Leg Med* 2008;**15**(4):263–5.
- Benecke M. Ungewollte strangulation durch ein Fahrzeug: Der Tod von Isadora Duncan. *Rechtsmedizin* 1996;**7**:28–9.
- Chattopadhyay S, Pal I. Survival following accidental ligature strangulation: a case report. *J Forensic Leg Med* 2008;**15**(1):53–5.
- Kohli A, Verma S, Agarwal B. Accidental strangulation in a rickshaw. *Forensic Sci Int* 1996;**82**:191–2.
- Kohli A, Verma SK, Agarwal BB. Accidental strangulation in a rickshaw. *Forensic Sci Int* 1996;**78**(1):7–11.
- Gowens PA, Davenport RJ, Kerr J, Sanderson RJ, Marsden AK. Survival from accidental strangulation from a scarf resulting in laryngeal rupture and carotid artery stenosis: the “Isadora Duncan syndrome”. A case report and review of literature. *Emerg Med J* 2003;**20**:391–3.